

# The Role of Prior Online Learning Experience in Student Learning under ERT – A Comparative Study

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## Abstract

The pandemic provided great research opportunities in learning/teaching. How was students' learning experience under emergency remote teaching (ERT)? The purposes of this study are to explore students' learning experience, and to observe any differences under two lenses – internationalization and prior online learning. An online study was conducted in the Management/Business programs of a major Canadian research university and four Russian universities in 2021. A total of 683 students participated in this study, two-thirds of which were Canadian and one-third were Russian. The degree of internationalization (e.g. international students) is higher in Canadian universities, while a higher percentage of Russian students had prior online learning experience before the pandemic in this study. The research findings showed that the degree of internationalization did not play a significant role in the difference of student learning; while the prior learning experience played a crucial role under ERT. Russian students adjusted better to the new learning mode, reported a more positive view of online learning, had a better learning experience and performance, and had a preference to continue with online learning post-pandemic. This research sheds light on students' preference for online learning that was influenced by prior exposure to online learning.

**Keywords:** Prior Online Learning Experience, Comparative studies, Student experience, Emergency Remote Teaching (ERT), Blended learning

## 1. Introduction

The COVID-19 pandemic provided great research opportunities in learning and teaching in higher education. At the beginning of the pandemic, the higher education sector was forced to switch from in-person teaching to emergency remote teaching (ERT). Hodges et al. (2020) described that ERT was not a pre-planned online learning approach, in terms of the course design, method of delivery, learning activities, or learning outcomes assessment. During the pandemic, various studies investigated issues such as institutional responses to the pandemic (UNESCO, 2020), as well as faculty experiences and adjustments (Sangster et al., 2020; Elshami et al., 2021; Johnson et al.; 2020). Other studies considered student engagement, psychological impacts, perceptions, preferences, satisfaction, performance, etc. Few explored the students' online learning experience and effectiveness in a comparative manner.

The degree of internationalization in higher education is not the same in Canada and in Russia, nor were the levels of prior exposure to online learning similar in the two countries. Internationalization of higher education, for example, is a strategic goal in Canadian universities, as they have been engaging in various internationalization activities, including international collaborations in academic/scholarly projects and international student recruitment. It is mainly due to the fact that international students add great value to higher educational institutions and they bring academic, cultural, and economic benefits to the domestic learning environment and society; furthermore, they become ambassadors of the host country (Chen, 2007). Although internationalization is also an important aim for major Russian universities, the results of the efforts are comparatively lower than in Canadian universities. Most international students in Russia are from countries of the former Soviet Union, while Canadian universities attract international students from all over the world. Due to the fact that international student presence in Canadian universities is a big component in the student body, it is worth investigating whether students' response would be different based on their legal status, i.e. domestic vs. international student.

Another important factor was the differing degree of online learning prior to the pandemic in both countries. Did prior online learning experience have an impact on student learning under ERT? Did students experience more similarities or differences in both countries? Little research explored the impact of prior online learning on student learning under ERT. Therefore, the purposes of this comparative study were first, to explore students' learning experience during the pandemic, and second, to investigate the difference in student responses under two lenses – internationalization and prior online learning experience, in particular to observe the differences between Canadian and Russian students' perceptions of the effectiveness of the online learning mode, the use of technology, perceptions, self-assessed learning outcome, and future learning preferences.

Understanding students' online learning experience and their transition into ERT during the pandemic is important for higher educational institutions for various practical reasons. This understanding will contribute to helping faculty members, support staff and institutions take various actions to enhance student in-person learning post-Covid.

## 2. Literature Review

Much research has documented the impact of the pandemic on attitudes toward and preferences regarding online learning, student engagement, performance, satisfaction, perception of academic misconduct in online exams, preferences with respect to blended learning mode, and much more. However, little research discusses the effect of prior online learning experience in the ERT learning mode. The literature review will focus on these topics, as well as prior online learning experience.

### 2.1 Students' Perceptions and Preference of Online Learning

Several studies documented students' use of technology and their perceptions related to the pros and cons of online learning. The selected domains of literature review documented students' perspectives from various disciplines in different continents. This provides a universal view of how the pandemic has shaped students' views of online learning. Except for the digital divide, students around the world shared more similarities than differences in their learning experiences.

Abdullah & Ward (2016) and Kemp et al. (2019) found that the ease of using technology, the usefulness of technology, and access to device/connectivity has a major impact on students' attitudes toward, acceptance of, and adoption of online learning. Students were forced to adapt to ERT, and yet their overall attitude to online learning subsequently impacted their learning satisfaction and outcomes. Rizun & Strzelecki (2020) observed that students were generally comfortable using computers and the internet for online learning. Some studies reported that the ease of using technology encouraged students to participate in online learning; however, students complained about long screen times and lack of supporting resources (Aguilera-Hermida, 2020; Chen, 2023). Furthermore, students reported that their workload increased because professors added more work. Wilcox & Vignal's (2020) study also indicated that 77% of respondents reported that they needed to spend more time on their work.

Many studies have investigated the pros and cons of online learning. In general, the advantages of online learning were its flexibility, convenience, and the comfort of learning at home, learning at one's own pace, and better utilization of time; on the other hand, the disadvantages were associated with network instability, and a lack of interactions and concentration (Bączek et al., 2020; Croxton, 2014; Hasan & Khan, 2020; Shim & Lee, 2020). The technical problems and connectivity issues, especially during exams, were the main causes of stress.

There were pros and cons for both synchronous and asynchronous online learning. Nguyen et al. (2021) and Wilcox & Vignal (2020) found that most students preferred synchronous online teaching, because they felt more motivated, engaged and less isolated. Wilcox & Vignal (2020) also discussed the advantages of asynchronous lectures. They provided more flexibility for students who needed to study at their own pace, or were in a different time zone, and thus the internet connectivity was less of an issue. Almendingen et al. (2021) and Muthuprasad et al. (2021) found Norwegian and Indian students agreed that pre-recorded lectures and asynchronous group activities or quizzes helped them learn.

Many studies documented students' strong preference for in-person learning, because they were able to interact with fellow students and professors, and participate in class activities (Aguilera-Hermida, 2020; Brooks & Grajek, 2020). Students considered that in-person learning was more effective than online learning for increasing skills and social competencies.

### 2.2 Student Engagement, Performance, and Satisfaction

Students' learning outcomes and performance are directly linked to their engagement in the learning process. In general, students are more satisfied with their learning and perform better when they are more engaged. The

Chronicle of Higher Education reported that during the Covid, faculty perceived low student engagement and student's feelings of being disconnected, stressed, and unsure about their future (McMurtrie, 2022). Student engagement strongly correlated to faculty and peer support, the online content and activities, as well as interactions in the course. Liu & Zhang (2020) and Tello (2008) found that interactions between students and from teachers to students have a positive impact on student engagement; furthermore, student engagement was also influenced by happier teachers and peers and a well-designed online learning environment and activities (Oliveras-Ortiz et al., 2020; Al Mamun et al., 2020; Zydney et al., 2020).

Various studies investigated the effect of online learning on performance. Some found that students had better performances taking online courses, while others found the opposite. These phenomena are consistent pre-pandemic and during the pandemic. Prior to the pandemic, Dotterweich and Rochelle's (2012) research found that students who took in-person courses performed on average 4.6 points better in their final grade than those who took the same courses online. Faidley's (2018) thesis also supported their findings that students who took accounting in a traditional in-person accounting course performed significantly better than those who used an online asynchronous format. However, Daymont & Blau (2008) and Gratton-Lavoie & Stanley (2009) reported students performed better in online courses. They suggested this was partly due to the self-selection effect. Academic-abled students were more likely to select an online course than weaker students.

During the pandemic, Tzeng et al. (2022) found that Taiwanese medical students who took the online course performed worse in the clinical practice exams and national clinical exams than those who took the in-person courses. Foo et al.'s (2020) study showed the similar findings – Hong Kong medical students who used the traditional in-person mode performed better in five areas of proficiency than those who used online learning.

On the contrary, some contradictory results were also found in disciplines where field work or clinical internship were an integral part of the study. Gerhart et al. (2021) found the American students' performance and online learning experience in a science field work course were similar to the previous traditional offerings of the course. Similarly, Johnson & Barr (2021) found that American mechanical engineering students performed as well using online courses as with in-person courses when assessing their conceptual knowledge.

Johnson et al.'s study (2020) suggested a possible explanation for discrepancies in academic performance. They discovered that during the pandemic, faculty members may have changed or modified the assessment methods from a paper-based examination to other forms of assessment, such as self-reflection assignments, group projects, open-book exam, or had simply dropped the exam. With these adjustments in assessments, students' performance then can be seen as being at a similar level as in an in-person learning mode. However, if the exam, set as the performance standard, was held constant, then differences in student performance could be observed as seen in Tzeng et al.'s study (2022).

Research documented factors affecting student attitudes toward and satisfaction with online learning include digital competency, prior online learning experience, self-efficacy with computers, and perceived ease of use of technology (Kovačević et al., 2021; Rizun & Strzelecki, 2020; Wei & Chou, 2020), effective communication and timely feedback between teachers and students (Ozfidan et al., 2021; Elshami et al., 2021), as well as motivation to learn, self-discipline, and teacher's competence and knowledge (Baber, 2020; Lei & So, 2021; Su & Guo, 2021).

### *2.3 Students' Perceptions of Academic Misconduct in Online Learning Environment*

Research showed that students perceived it to be easy to commit academic offences when using an online platform. Prior to the pandemic, several studies investigated academic misconduct in online courses. Kuzma et al. (2015) found that more than half of students perceived that it was easy to cheat in online courses. Prince et al. (2009) documented that on average, students earned 8 to 12 percent higher in an online exam than on an in-person exam. They suggested that there was potential of cheating and academic misconduct on online exams without a proctor.

During the pandemic, several studies investigated students' perception regarding the greater possibility of academic misconduct in an online course. Chirumamilla et al. (2020) found that both faculty and students perceived that an online platform provided more opportunities for academic offences. Acar-Ciftci (2022), in a qualitative case study, found that students could easily commit academic offences in online exams because of their lack of self-regulation skills. Wilcox & Vignal (2020) reported that 37% of their respondents knew someone who used unauthorized resources on the exam, and 60% of respondents found that academic misconduct committed by others put the honest students at a disadvantage. Some students responded that the exam should be designed in a way to make using unauthorized materials ineffective. Elsalem et al. (2020) noted that Jordanian students were stressed by internet connectivity issues regarding online exams, especially in relation to students' dishonesty and cheating behaviour.

#### *2.4 Prior Online Learning Experience on Student Learning*

There has been some systematic research of prior online learning experience on students' performance, engagement, and outcomes in future online courses. Some key findings and themes were related to the better performance due to proficiency and familiarity of the use of technology, potential for overconfidence, and role of instructor support. Several studies investigated a positive correlation between past online learning experience with academic performance in subsequent online courses. Haverila (2011) found that students with prior online learning experience tended to perform better in subsequent online courses, because they adapted more quickly to the online learning environment and often had better self-regulation skills. Students who have previously taken online courses not only tended to perform better in terms of grades, but also, they had higher completion rates (Hachey et al., 2015; Swan et al., 2012; Wilczewski et al., 2022). This advantage may be attributed to improved time management skills, familiarity with online tools and resources, and a better understanding of online learning expectations (Shih et al., 2006). Jaggars and Xu (2016) and Huang et al (2010) discussed how students with past online experience may be better equipped to overcome technical and logistical challenges that can arise in online learning.

Many studies focused on the influence of prior learning on students' engagement and interaction. Prior online learning experience can boost students' self-efficacy in an online environment. Students who have successfully completed online courses before tend to have higher confidence in their ability to excel in subsequent online courses. Higher self-efficacy can lead to increased engagement and motivation, which can positively impact learning outcomes. Richardson and Newby (2006) found that students with prior online learning experience might be more engaged in online discussions and collaborative activities. Students who are comfortable with digital communication tools tend to participate more actively. Students with positive prior online learning experiences are more likely to be satisfied with online courses and engage more actively in class discussions, group activities, and assignments. They may have an advantage in peer interactions, as they are accustomed to online collaboration tools and virtual teamwork. Their engagement can contribute to a more vibrant online learning community (Shih et al., 2006; Haverila, 2011; Hew & Cheung, 2014).

Socio-demographic factors, such as age, socio-economic status, and access to technology, can also influence the impact of prior online learning experience on subsequent learning. Many studies documented the impact of technology proficiency. While many students may have experience with online learning platforms, not all have the same level of technological proficiency. Variations in prior experience can affect how students handle technology-related challenges. Students with prior online learning experience often have a higher level of technological proficiency and digital literacy. They are more comfortable navigating learning management systems, using digital tools, and troubleshooting technical issues. This digital competency can reduce the learning curve for students and allow them to focus more on the content of the course. Artino Jr. and Stephens (2009) argued that prior online learners generally have higher levels of technological proficiency. However, there may be variations in their skills and comfort with specific online tools. Previous online learners tend to have developed effective online learning strategies and study habits. They may be more adept at setting goals, managing their time, and staying organized. These skills can contribute to better learning outcomes as they enable students to adapt to the online learning environment more efficiently (Shih et al., 2006; Shea & Bidjerano, 2010).

Despite the advantages of prior learning reported from various studies, Bruin et al. (2017), on the other hand, raised concerns about overconfidence among students with extensive prior online experience, which could lead to complacency or the assumption that all online courses are similar. Conrad and Donaldson (2011) emphasized the importance of instructor support in mitigating the potential disparities in online learning outcomes among students with varying levels of prior experience. Shea & Bidjerano (2010), Haverila (2011) and many other studies suggested that faculty training, course design, and assessment strategies should be adapted to cater to students with different levels of prior online experience. Faculty members should be trained to effectively engage students with varying levels of prior online experience, ensuring that all students have a positive learning experience. Effective pedagogical approaches and course design can mitigate the impact of varying levels of prior online learning experience. Strategies such as clear communication, well-structured courses, and interactive elements can benefit all students, regardless of their background. Furthermore, institutions should provide support and resources to help these students bridge the gap and succeed in online courses.

In conclusion, prior online learning experience can have a significant impact on students' subsequent online learning. However, the nature and extent of this impact can vary depending on individual factors and institutional support. Further research in this area can help deepen understanding of the relationship between prior experience and subsequent learning outcomes in online learning, especially in the ERT environment.

### 2.5 Blended Learning

Christensen et al. (2013) defined four blended-learning models – the à la carte model, the enriched virtual model, the flex model, and the rotation model. Blended learning originally meant a combination of face-to-face and online learning. However, during the pandemic, it referred to any combination of teaching modes. Prahmana et al. (2021) used the term “blended learning” to describe a community radio-based learning model for students in remote areas in Indonesia, while Lapitan et al. (2021) used “blended learning” for a combination of synchronous and asynchronous online learning in the Philippines. In general, students reported spending more time outside of class time engaging in self-learning. Means et al. (2014) reported that students spent more time reviewing recorded lectures outside of class, and they spent less time in the classroom for problem solving activities. As such, students tended to perform as well or better in a “flipped” or a blended learning mode than in a traditional face-to-face format (Love et al., 2014).

Blended learning proved to be beneficial to students, as the combination of in-person learning and recorded lectures provided better learning outcomes. Terry et al.'s (2015) study reported students who used a blended learning mode had a 3-point advantage in their final course grade. Verbert et al. (2014) also reported that blended learning provided for a better performance in an online collaborative learning environment coupled with the teacher's effective communication and feedback. Sangster et al. (2020) compiled a document showing that almost half of 66 accounting faculty contributors believed that a blended teaching mode, a combination of face-to-face and online teaching, would continue after the pandemic.

After the long period of online learning during the pandemic, students not only were well adjusted to the online learning, they also looked forward to blended learning modes post pandemic (Chen, 2023). Students found that in-person learning provided them a well-supported learning environment. Online learning approaches, on the other hand, such as recorded lectures, could help them review and clarify concepts learned, outside of class time.

### 3. Methodology

An invitation to participate in a survey was sent to students enrolled in the Management and Business programs at a major Canadian research university and four Russian universities in the summer and fall terms of 2021. The survey included six categories: background information, use of technology, preference, learning experience, learning outcome, and after the pandemic. Except for the background information, questions were designed and used a five-point Likert scale format, ranging from “1 – strongly disagree” to “5 – strongly agree.”

Data collected included quantitative and qualitative data. The quantitative data was analyzed using the SPSS software package. Data was analyzed using four statistical tests, including descriptive analysis, Chi-square ( $\chi^2$ ) test, independent-samples *t* test, and ANOVA. The independent-samples *t* test evaluates the difference between the means of two independent groups. The level of significance chosen for the statistical test, the alpha value ( $\alpha$ ), was set at 0.05 for this study. The descriptive comparison test was performed on three independent groups of the four independent variables – countries (Canada vs. Russia), domestic vs. international student, and level of study (undergraduate vs. graduate). Analysis of variance (ANOVA) is used to compare the means of three or more groups, and various one-way and two-way ANOVA tests were performed to observe the mean differences.

The qualitative data was collected from comment boxes in four areas: use of technology, preference (Comments: Please list the reasons for your preference for (1) an online course and (2) an in-person course.), learning experience (Comments: Please list three (3) positive and three (3) negative learning experiences that you had when taking online courses.), and after the pandemic. These comment boxes provided an opportunity to capture issues beyond the survey questions, and for students to express themselves regarding their ERT learning experience and learning preferences.

The inductive approach to thematic analysis was employed to analyze qualitative data, which allows for gathering new insights. This approach was appropriate because the nature of this study was to explore students' learning experience during the pandemic. Wiersma (2009) suggested that to increase internal validity, researchers should rely on logical analysis and verify results and conclusions from two or more sources or perspectives. As such, triangulation was used in this research to determine the consistency of data collected from both quantitative and qualitative methods. Data collected from the comment boxes was compared to the data reported from the survey questionnaires, which verified that there was consistency in students' response.

Please note that another paper (Chen, 2023), focusing on international students' learning experience in a major Canadian research university, has been published, using the same methodology.

## 4. Findings from the Quantitative Data

### 4.1 Student Background Information

A total of 683 students completed the questionnaire – 448 (66%) Canadian and 235 (34%) Russian students. There were two or three students who did not identify their legal status, level of study, and/or gender. The majority (86%) of participants were undergraduate students, and almost 400 (58%) students were domestic students. Due to the different degree of internationalization in higher education in the two countries, international students in Canada who participated in the study represented 37% (252 students) of total participants and 88% of all international students in both countries. Table 1 shows the students' background information.

Table 1. Students background information – Level of Study, Legal Status and Country

		Canada		Russia		Total	
		N	%	N	%	N	%
Undergraduate	Domestic	179	26.2%	146	21.4%	325	47.6%
	International	238	34.8%	23	3.4%	261	38.2%
	Total	417	61.1%	169	24.7%	586	85.8%
Graduate	Domestic	17	2.5%	56	8.2%	73	10.7%
	International	14	2.0%	10	1.5%	24	3.5%
	Total	31	4.5%	66	9.7%	97	14.2%
Total		448	65.6%	235	34.4%	683	100.0%

Table 2 shows the summary of the survey questions results, which provides the data for the analysis for the following 5 categories of questions, with differences between and among groups indicated in the table. The letter indicated that students agreed with the statement with higher means. R represents Russian students and C represents Canadian students.

A first glance at Table 2 provides two key observations: that (1) except for the first category (Use of Technology) which had higher mean scores, and the question “*The recordings of the lectures help me learn the course content better*” which had a 4.22 mean average, the rest of the four categories' mean scores were mostly around 3, which indicated that the students had a moderate online learning experience during the pandemic, and that (2) the Russian students agreed more strongly with the questions in most of the five categories than the Canadian students (see the first comparative column), except for the question “I need to spend more time studying on my own in an online learning environment.”

In conducting comparative analyses for several subgroups, there were few mean differences for international student groups, graduate student groups, and gender groups in both countries. Further analysis revealed that the mean differences were mainly determined by undergraduate students in the study (see the second and third comparative columns). This indicates that internationalization was not a significant factor causing the differences in response.

Studies showed that students' perception of the ease of using technology had an impact on their favourable attitude toward, acceptance and adoption of online learning (Abdullah & Ward, 2016; Kemp et al., 2019). This perception could be influenced by prior experience of online learning (Haverila, 2011). Two-thirds (66%) of the total students in the study reported that they did not take an online course prior to the pandemic. Table 3 shows the breakdown of those who took the online courses. A higher percentage of Russian students had taken online courses prior to the pandemic. For example, 85 of 170 Russian undergraduate students (50% of this subgroup) had taken an online course before March 2020, while only 119 of 418 Canadian undergraduate students (28.5% of this subgroup) had taken an online course prior to the pandemic. Slightly more than one third (24 of 66) of Russian graduate students had taken an online course before March 2020, while only one quarter (8 of 31) of Canadian graduate students had taken an online course prior to the pandemic. As a whole, only 28.3% (127 of 449) of Canadian students versus 46.2% (109 of 236) of Russian students had taken an online course prior to the pandemic. As such, this explains the observation that students in Russia tended to agree more strongly with the statements in the questionnaire than the students in Canada. Table 4 further presents the data of significant differences between those students who had prior online learning experience versus those who had not. Those who had prior online learning experience responded more positively in the categories of the use of technology, preference in online learning environment, learning experience, and learning outcome. They also preferred to continue with online learning post pandemic.

Table 2. Summary of the survey questions

	<i>N</i>	<i>M</i>	<i>SD</i>	All C & R	Undergrad Dom + Intl	Undergrad Dom	Domestic Under + Grad
<b>Use of technology:</b>							
It is easy for me to use technology to take online courses.	683	4.18	0.920	R	R	R	R
The online connectivity mostly works well for my courses.	679	3.75	1.065	R	R		
The online platform my professor chose for courses is effective.	683	3.89	0.983	R	R	R	R
I have adjusted to the online learning mode this year.	679	3.76	1.157	R	R	R	R
I find it easier to use online learning mode this year.	680	3.51	1.282	R	R	R	R
<b>Preference: In comparison to an in-person course,</b>							
I prefer learning online for its flexibility.	681	3.58	1.290				
I prefer in-person learning for its personal contact.	684	3.82	1.133				
I am motivated to attend an online class.	683	3.08	1.263	R	R	R	R
I prefer synchronous (live streaming) online course.	682	3.29	1.242	R	R		
I prefer asynchronous online course (e.g. learning by watching recorded lectures).	683	3.34	1.323			R	R
I feel relaxed in an online learning environment.	683	3.67	1.168	R	R	R	R
I feel I have more support from learning online.	681	2.82	1.280	R	R	R	R
I feel my professors are more accommodating in an online learning environment.	682	3.19	1.160				
<b>Learning Experience:</b>							
I am better prepared mentally and physically to attend an online class.	679	3.32	1.264		R	R	
I always attend the online synchronous classes.	678	3.70	1.223				C
I have a better learning experience in an online learning environment.	680	3.01	1.279		R	R	R
I learn the course content better in an online learning environment.	678	3.00	1.295	R	R	R	R
I need to spend more time studying on my own in an online learning environment.	679	3.74	1.088	C	C	C	C
I have a better experience using a break-out room for group discussions during online classes.	679	2.90	1.235	R	R	R	R
The recordings of the lectures help me learn the course content better.	679	4.22	1.021	R	R	R	R
I can get feedback and communicate with my professors more easily in an online learning	674	3.10	1.233	R	R	R	R
<b>Learning Outcome</b>							
I feel the same way writing an online exam in comparison to an in-person exam.	675	2.71	1.286				
I perform better in my exams using the online learning mode.	674	3.42	1.177	R	R	R	R
I perform better in an online course where the attendance is mandatory.	674	3.26	1.181		R		
I have achieved my academic goals using the online learning mode.	675	3.33	1.226	R	R	R	R
<b>After the pandemic</b>							
I would prefer to continue with online learning mode.	673	3.17	1.402	R	R	R	R
I would prefer to learn in an in-person environment.	675	3.61	1.200				

*M* mean is calculated based on a five-point Likert scale, ranging from “1—strongly disagree” to “5—strongly agree.”

C (Canadian); R (Russian) agreed with the statement more strongly.

Table 3. Break-down of students' responses to "I have taken an online course before March 2020"

	Canada		Russia		Total	
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
Undergraduate (No)	299	71.5%	85	50.0%	384	65.3%
Undergraduate (Yes)	119	28.5%	85	50.0%	204	34.7%
Subtotal	418	100.0%	170	100.0%	588	100.0%
Graduate (No)	23	74.2%	42	63.6%	65	67.0%
Graduate (Yes)	8	25.8%	24	36.4%	32	33.0%
Subtotal	31	100.0%	66	100.0%	97	100.0%

Table 4. Prior Learning Experience Comparison (All Students)

	Number		Mean		Mean Difference	Significance
	Yes	No	Yes	No		
Use of technology:						
It is easy for me to use technology to take online courses.	234	449	4.28	4.12	0.16	✓
The online connectivity mostly works well for my courses.	233	446	3.80	3.72	0.08	
The online platform my professor chose for courses is effective.	234	449	4.03	3.82	0.21	✓
I have adjusted to the online learning mode this year.	232	447	3.83	3.72	0.11	
I find it easier to use online learning mode this year.	233	447	3.66	3.44	0.22	✓
Preference: In comparison to an in-person course,						
I prefer learning online for its flexibility.	234	447	3.74	3.50	0.24	✓
I prefer in-person learning for its personal contact.	235	449	3.78	3.84	-0.06	
I am motivated to attend an online class.	234	449	3.24	3.00	0.24	✓
I prefer synchronized (live streaming) online course.	235	447	3.27	3.30	-0.03	
I prefer asynchronous online course (e.g. learning by watching recorded lectures).	235	448	3.42	3.30	0.12	
I feel relaxed in an online learning environment.	234	449	3.82	3.59	0.23	✓
I feel I have more support from learning online.	234	447	3.02	2.72	0.30	✓
I feel my professors are more accommodating in an online learning environment.	235	447	3.31	3.13	0.18	✓
Learning Experience:						
I am better prepared mentally and physically to attend an online class.	233	446	3.36	3.30	0.06	
I always attend the online synchronized classes.	232	446	3.70	3.70	0.00	
I have a better learning experience in an online learning environment.	233	447	3.15	2.94	0.21	✓
I learn the course content better in an online learning environment.	232	446	3.13	2.94	0.19	✓
I need to spend more time studying on my own in an online learning environment.	233	446	3.68	3.77	-0.09	
I have a better experience using a break-out room for group discussions during online classes.	233	446	2.93	2.88	0.05	
The recordings of the lectures help me learn the course content better.	233	446	4.33	4.16	0.17	✓



I can get feedback and communicate with my professors more easily in an online learning	230	444	3.20	3.05	0.15	
Learning Outcome						
I feel the same way writing an online exam in comparison to an in-person exam.	231	444	2.81	2.66	0.15	
I perform better in my exams using the online learning mode.	232	442	3.58	3.34	0.24	✓
I perform better in an online course where the attendance is mandatory.	232	442	3.22	3.28	-0.06	
I have achieved my academic goals using the online learning mode.	232	443	3.46	3.27	0.19	
After pandemic						
I would prefer to continue with online learning mode.	232	441	3.29	3.10	0.19	
I would prefer to learn in an in-person environment.	232	443	3.52	3.66	-0.14	

*Note.* Mean is calculated based on a five-point Likert scale, ranging from “1—strongly disagree” to “5—strongly agree.”

Significance: significant differences observed between “Yes and No” to Prior Online Learning Experience.  $p < 0.05$ .

#### 4.2 Use of Technology

The questions in the Use of Technology section are to understand how easily students accessed the internet and employed technology for their online learning. As seen in Table 2, the means for this set of questions were relatively high. Most students in both countries agreed that it was easy for them to use technology to take online courses, and the online connectivity mostly worked well. From the comments, more international students than domestic students commented that the connectivity, including the bandwidth and accessibility issues, did not work as well as they expected because they were in their home countries.

#### 4.3 Preference

The questions in the Preference section were designed to gain a sense of students’ preferred learning mode and the reasons for the preference. Overall, the responses in this section had a slightly above mean average of 3, indicating that most students in both countries prefer in-person learning for its flexibility and personal contact, which supported Aguilera-Hermida’s (2020) and Brooks & Grajek’s (2020) findings. The Russian students indicated that they were motivated to attend the online courses more than the Canadian students. In addition, the Russian students preferred synchronous online learning more than the Canadian students, as the Canadian students preferred the flexibility of learning at their own pace by watching the recorded lectures. This phenomenon was further explained by the fact that many Canadian respondents were international students who might not be able to attend synchronous class due to time zone differences. In addition, the differences between the two student bodies were likely due to the fact that more Russian students had prior learning experience. Students in both countries disagreed that they had more support from learning online.

#### 4.4 Learning Experience

The questions in the Learning Experience section were designed to gain insights on students’ preparedness – psychologically and academically, and their learning experience with various activities in the online environment. It is interesting to note that in general, Russian students reported that they had more positive online learning experience than Canadian students, in particular, questions like “I am better prepared mentally and physically to attend an online class,” and “I learn the course content better in an online learning environment.” These findings supported earlier studies regarding prior learning has more positive impact on subsequent learning experience (Haverila, 2011; Shih et al., 2006; Hew & Cheung, 2014).

On the other hand, students in both countries agreed strongly that “the recordings of the lectures help me learn the course content better.” The observation was more pronounced in international student group. It is worth noting that Canadian students agreed with the statement “I need to spend more time studying on my own in an online learning environment” more than the Russian students. This supported Wilcox & Vignal’s findings (2020) that students needed to spend more time on their work. Particularly, the Canadian domestic students agreed more than the Russian domestic students that they “always attend the online synchronous classes.” In general, students rated the in-class activities, such as break-out room for group discussions with lower rating.

#### 4.5 Learning Outcome

The questions in the Learning Outcome section were designed to understand students' self-assessment of their performance and learning outcomes. Students in both countries rated the questions related to online assessment and learning outcome with lower scores. In general, students disagreed that it was the same writing an online exam in comparison to an in-person exam. Russian students tended to agree more with the statements that they performed better in exams using the online learning and they achieved their academic goals using the online learning. This finding also confirmed the previous studies that students with prior online learning experience tend to perform better in subsequent online courses (Haverila, 2011).

Canadian students reported that some online exams were not as flexible, where, for instance, they might not be allowed to go back to previously completed questions, which could be very stressful, especially when the online connectivity was not stable. In addition, students in both countries made comments about academic misconduct writing online exams.

#### 4.6 After the Pandemic

The After the Pandemic section included two questions about students' preference for future learning. Students in both countries would generally prefer in-person teaching mode. The Russian students would generally prefer an online teaching mode more than the Canadian students. This also supports the findings from previous studies that students who had prior online learning experience tend to perform better and thus prefer further online courses.

### 5. Findings from the Qualitative Data

#### 5.1 Comments Collected from the Survey

There were four comment boxes placed after (1) the technology section, (2) the preference section, (3) the learning experience section, and (4) at the end of the survey. Students were asked to comment on the reasons for their online learning and in-person learning preferences, and list three positive and three negative online learning experiences. Some students, especially Canadian students, made longer comments about their learning experience during the pandemic, which were helpful in further explaining the students' responses to the survey questions. Some sample comments were extracted verbatim and were grouped into 5 themes – general, advantages and disadvantages of online learning, online assessment and academic misconduct, and blended learning:

##### **General:**

*"I have found that my exam performance and overall course performance has been consistent and relatively unchanged between online and in-person learning. Overall, I think both online and in-person learning offer unique benefits that neither can replicate on their own. Looking back, I wish all in-person classes were recorded so that students could re-watch them at any time to refresh material and help study for exams. If in-person classes were to be recorded going forward, I think mandatory in-person attendance would be very beneficial in ensuring that students still attend class and don't think "I'll just watch the recording later" and then end up behind in class." (Canadian Year 4 domestic student)*

*"I very much like to watch both synchronized (live streaming) and asynchronous (recorded lectures). I always attend class on time and watch the full live streamed lecture and then re-watch recordings regularly to refresh my course knowledge and refer back to them when I am stuck on a topic. In-person courses and learning are far better socially in terms of building relationships with classmates, developing friendships, and getting to know people. While I very much enjoy the tremendous benefits of online learning, there are certain aspects of in-person learning that cannot be replicated. Working on group projects in person and communicating is also easier in many ways." (Canadian Year 4 domestic student)*

*"It has nearly been 3 academic years since 2020 when students attended class in person... I say that adjusting to the learning environment was difficult (in grade 12). Moreover, having to adjust to ONLINE university as first-year students was even more difficult than adjusting to online learning in high school. I believe that after all this time I have managed to adjust well to the online environment. However, 3 years later, we will be returning to in-person learning and all the tactics and methods that I developed through the past 3 years for online learning would render useless. I have completely forgotten what it is like to attend in-person lectures and how to go about being efficient in school. With online learning, I had far more control over my schedule and was able to derive weekly plans that were efficient and effective. I believe the average CGPAS of the 2020 to 2022 class will fall since the majority have adjusted to online learning." (Canadian Year 2 domestic student)*

*"... I strongly feel that my learning has been impacted as well as my mental health. You do not learn in the same way at all when not surrounded by the appropriate environment for focus and peers to speak to. I have always*

*been passionate about my academics but with online school, I am basically just trying to get by. I have much less desire to focus on my studies in this environment. I am extremely excited to return to in person learning.” (Canadian Year 2 domestic student)*

*“For the positive side, first online learning provides me with a more flexible schedule. Second, the asynchronous courses enable me to pause when I have to take notes and think over the content, which makes me learn more efficiently. Third, online learning saves time, for I do not have to commute to school. For the negative side, first the breakout room can be a "nightmare". Normally no one turns on his camera and never says anything. If we are in person, the situation can be totally different! Second, taking online courses do not provide with students a real learning environment. All you have are several electronic devices. Third, the time zone can be annoying. Usually I have to stay up late to take synchronous courses like presentation class. Making presentations at 3 a.m. really makes me not as efficient and energetic as I normally am.” (Canadian Year 1 international student)*

*“Positive: It's nice to be able to re-watch lectures; Not having to commute is nice... Negative: Communication during online class is superficial; You are not motivated to attend class as you can watch it later; Working from home sometimes is not great.” (Russian Year 2 domestic student)*

*“The increase in workload this year has tired not just me, but all students. We are mentally exhausted and need properly funded resources to help with our mental health. In addition, we need a lighter workload, otherwise all we do is stare at a screen all day.” (Canadian Year 2 domestic student)*

*“Online courses are good because it allows professor to invite guest lecturers from around the world, who are usually very interesting.” (Canadian Year 4 international student)*

### **Advantage of Online Learning**

*“It's harder to maintain discipline and be present during the online-lecture. The main advantage for online course is an ability to watch lectures that were recorded in your preferred pace (2x for instance)” (Russian Year 2 domestic student)*

*“Online classes are convenient, because you do not need to travel anywhere, at home it is very comfortable and convenient. however, I can't say that I completely prefer online learning, because at home sometimes you relax a lot and there is no working environment. So online learning can be chosen 100% if the person is organized and can force himself to work even at home” (Russian Year 1 domestic student)*

*“I like the atmosphere of online classes very much. The risk of infection disappears without a trace, but I won't contact with so many people if it is an online class. I can study in my own comfortable environment. Don't worry about your health. Work and study are very flexible and safe.” (Canadian Year 2 international student)*

### **Disadvantage of Online Learning**

*“Think online learning is terrible, necessity not a choice. Online learning is almost the same as self-teaching, actually less effective. Many distractions at home, internet and connectivity is not stable with little to no class participation. Online learning was the only alternative to learning during the pandemic, better than not learning. No substitute for human contact and face to face collaboration.” (Canadian graduate domestic student)*

*“Most of the courses take place in Teams, and I find that platform very useful and convenient, but some classes take place in zoom, which has some major flaws to me, such as the need to have a link or to get approval to log in the class sometimes.” (Russian graduate domestic student)*

*“I am not motivated to attend online classes. Don't like them at all.” (Russian Year 2 international student)*

*“Online learning should only be used as a completely forced measure because about 50% of the learning functions are lost during online learning - live communication.” (Russian Year 1 domestic student)*

### **Online Assessment and Academic Misconduct**

*“Taking an exam online and on paper are EXTREMELY different. I do way better when I can highlight the questions as I read them and make extra notes... One last thing, online tests make cheating easier. I have heard that some students had hired "tutors" to take tests for them. Although I personally, would never choose to do such stupid thing. But it's so unfair for students who actually spend time on learning.” (Canadian Year 1 international student)*

*“Positive: Profs being more flexible and approachable, more application-based exams, better class discussions. Negative: marks getting curved down because of people who cheated, tests where you can't go back, group projects with unresponsive members.” (Canadian Year 3 domestic student)*

*"I believe adjusting to taking closed book exams under strict will be hard. I also believe that making tests open book encourages less memorizing and more applied learning which is good... I noticed more courses taking weight of exams and making group project. I prefer this due to testing anxiety and because it makes me internalize information better. Many projects have helped me grasp concepts better and perform better in tests (some which were not part of the course/as important before going online). Something that bothers me about online tests is the fact that you can't skip around, while I understand it's for academic integrity issues, it can be hard as I can no longer do "what I know" first before moving on to harder questions."* (Canadian Year 3 international student)

*"Regarding the online exam mode, I would say an in-person exam mode is more fair and minimize the risk of academic offense."* (Canadian Year 4 international student)

*"1) Bad Internet connection; 2) A possibility to cheat; 3) You want not to go outside more"* (Russian Year 1 domestic student)

### **Blended Learning**

*"I'm for hybrid education. There should be equal opportunities for pro studying in-class and online. Especially, I believe that every lecture should be recorder."* (Russian Year 2 domestic student)

*"I would prefer a hybrid. All classes now should have Web Option available for at least... The switch might be rough and easing us in with the hybrid will help people settle in better."* (Canadian Year 3 international student)

*"Hybrid model is ideal, where there are in person classes but they are recorded and put online. I would also prefer to keep coursework online"* (Canadian Year 2 domestic student)

*"I want to have a mix of learning mode. Some courses can be in-person and the other can be online."* (Canadian graduate international student)

*"I like online regime or hybrid regime, when lectures are online, and practical classes/seminars are offline."* (Russian graduate domestic student)

## **6. Discussion**

### *6.1 Student Learning Experience, Perception, and Preference*

A few themes emerged from the above comments – (1) advantages and disadvantages of online learning, (2) the importance of lecture recordings, (3) online assessment and academic misconduct, and (4) preference for blended learning for the future.

The top advantages of learning online were recorded lectures, flexibility, and no commute – saving time and costs. In addition to these benefits, students also mentioned that the online learning provided them an opportunity to better manage their time and they felt more relaxed and less stressed learning from their home. They found it easier and less intimidating to participate in class, as they could type their questions on the chat function. A few students pointed out that the online learning at home was safe.

On the other hand, the top disadvantages of learning online were that they felt isolated and they had no socialization and no interaction with faculty members and fellow students, and they were not motivated to learn. Some Canadian students commented that the workload increased, and that they had difficulty participating in breakout room and group work when group members kept silent or turned off their cameras. Students also reported less support in an online learning environment and difficulty with concentration and focus. International students found technical and connectivity issues, and being in a different time zone made it more difficult for them to learn.

While recognizing the benefits of flexibility and convenience of online learning during the pandemic and even beyond the pandemic, most students in both countries stated that they preferred in-person teaching for better engagement, feeling more motivated, the personal contact and socialization, and a more efficient way of learning. Students in higher level, such as Year 4 and graduate students, seemed to adjust better to online learning and performed relatively the same academically in either teaching mode compared with those who were in lower levels. For example, a Year 4 Canadian student commented that *"I have found that my exam performance and overall course performance has been consistent and relatively unchanged between online and in-person learning;"* while a Year 2 Canadian student commented that *"I strongly feel that my learning has been impacted as well as my mental health. You do not learn in the same way at all when not surrounded by the appropriate environment for focus and peers to speak to."*

It is worth noting that more Canadian than Russian students perceived that the online exams and assessments could lead to cheating or make it easier to cheat. In order to prevent cheating, students commented that professors made the exams much harder. Students commented on the benefits of open-book exams. They believed that it could not

only reduce cheating, but also help students learn and understand the material, rather than learn by memorization. Many students, both Canadian and Russian, preferred a hybrid teaching mode for the future. They commented on the importance of lecture recordings that helped them learn. This was particularly helpful for international students who were in different time zones that prevented them from attending the synchronous lectures. These international students relied on the recorded lectures to learn. They commented on the difficulty of learning without the lecture recordings. They believed that some faculty members, wanting to encourage class participation, did not record their lectures.

### *6.2 Factors related to Internationalization and Prior Learning Experience*

In reviewing the similarities and differences in the comments between the Canadian and Russian students' online learning experience during the pandemic, the observation was that they shared common views of learning under ERT, such as a preference for in-person interaction and socialization. No significant differences were observed due to the degree of internationalization, except for the connectivity and time zone issues.

In further investigation of the differences in the two student bodies, it is interesting to note that in general, Russian students were better prepared mentally and physically to attend an online class. They transitioned into ERT more easily than Canadian Students. They had fewer negative comments regarding online learning, and reported their ERT learning experience more positively than did the Canadian students. These observations could be explained by the fact that they had more experience with online learning prior to the pandemic, which confirmed the importance of the prior online learning on the subsequent ERT learning.

### *6.3 Limitation of the Study*

This study focused on students enrolled in management and business programs and their perspectives on their online learning experience during the pandemic. The main limitation of this study is that it does not capture students' learning and lab work experience in those fields where lab work is a significant component of the course structure.

Nonetheless, the findings from this study supported various earlier studies in various disciplines from across the globe – Asia, Middle East, Europe, North America and South America – during the pandemic (Aguilera-Hermida, 2020; Almendingen et al., 2021; Bączek et al., 2020; Chen, 2023; Elshami et al., 2021; Muthuprasad et al., 2021; Nguyen et al., 2021; Pérez-Villalobos et al., 2021; Shim & Lee, 2020; Wilcox & Vignal, 2020). As well, this study confirmed the importance of the role of prior online learning experience on the ERT learning environment, mainly that those students were better prepared and had a better performance in subsequent online courses (Hachey et al., 2015; Haverila, 2011; Swan et al., 2012; Wilczewski et al., 2022). This study makes an important contribution to the existing literature by adding the students' perspectives from Russia. This study also suggests a direction for future research in how the different level of prior online learning experience influences subsequent learning and student preparedness, in an event of unplanned change of teaching mode.

## **7. Conclusions**

Emergency remote teaching (ERT) was forced upon students and faculty members during the pandemic. Regardless of the various flaws of ERT, the learning was able to continue. This study investigated students' online learning experience and preference in Canada and in Russia, and found that at a general level, students in both countries share more similarities than differences – they preferred in-person learning, but rated the online learning experience as being moderately successful. Investigating further into the differences among the two groups of students, this study found the important role of prior learning experience in ERT. Due to the higher level of prior online learning experience, Russian students showed themselves to be better prepared for the adoption and adjustment to ERT learning mode, and reported a better learning experience and the expectation of a better course performance. In comparison to Canadian students in the same study, Russian students had fewer negative reports about online learning. This finding supported the assertions that prior online learning experience and familiarity with the technology had a positive influence on students' attitude toward online learning, engagement in the learning process, and their eventual learning satisfaction.

In the post-pandemic era, although the benefits of in-person learning, such as being more motivated and engaged in the learning process, more personal contact and socialization, will continue to be a preference for student learning, the benefits of online learning have also heightened. Online learning is nimble, flexible, and adds great value to in-person learning, but will not to totally replace in-personal learning. Moving forward, both in-personal and online learning will play important roles in teaching/learning for their strengths, which suggests a blended learning mode may be a new norm. The better we prepare students in various learning modes, the better adjustment, preparedness, performance in their subsequent course will be ensured, which is the insight gleaned from the

importance of prior learning experience in this study.

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#### **Data Availability Statement**

The data that support the findings of this study are available on request.

#### **Competing Interests Statement**

The authors declare that there are no competing or potential conflicts of interest.

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